
Georgia UCR Arrest Statistics: Assessing Accuracy Using Computerized Criminal History Records

A Report Of The Georgia
Statistical Analysis Center

Criminal Justice Coordinating Council
Atlanta, Georgia

December 5, 2003



Applied Research Services, Inc.
"turning data into decisions"

Georgia UCR Arrest Statistics: Assessing Accuracy Using Computerized Criminal History Records

We would like to thank the Georgia Crime Information Center: Paul Heppner, Bill Holland, Gib Heuett, and Terry Gibbons. We want to extend a special thanks to Willene White-Smith for her hard work, assistance, and insight into the UCR program.

This project was funded by the U.S. Department of Justice, Bureau of Justice Statistics, 2003 State Justice Statistics Program Grant #2003-BJ-CX-K002

Project Staff

Applied Research Services, Inc.

John Speir, Ph.D.

Tammy Meredith, Ph.D.

Sharon Johnson

Heather Hull

Georgia Statistical Analysis Center

LaSonja Fillingame, Director

Georgia Statistical Analysis Center Committee

Ms. Helen Scholes, Administrative Office of the Courts (Chair)

Dr. William L. Megathlin, Armstrong Atlantic State University

Ms. Judy Hadley, Office of Planning and Budget

Mr. Brian Owens, Department of Corrections

Mr. John Prevost, State Board of Pardons and Paroles

Mr. Tony McClung, Department of Community Affairs

Georgia Criminal Justice Coordinating Council

L. Gale Buckner, Executive Director

Joe Hood, Division Director

Table of Contents

Chapter 1: Introduction	1
Chapter 2: Four Trends Shape How We access, Analyze & Apply UCR Statistics	3
Chapter 3: UCR Arrest Reports	6
Chapter 4: Research Methodology: Revisiting UCR Arrest Accuracy	9
Chapter 5: Research Findings	12
Chapter 6: Discussion	26
References	31

Chapter 1: Introduction

The Uniform Crime Reports (UCR) is the most comprehensive and widely used source of crime statistics in the United States. Collected by the FBI since 1930, the UCR is a voluntary reporting program of monthly crime and arrest reports submitted by local law enforcement agencies. Published annually in *Crime in the United States* (FBI), the UCR is the nation's principal source of information on trends in crime and arrests.

The first section of each annual UCR report describes crimes reported to the police. Although these data have been studied extensively over the past 70 years, policy-makers and scholars continue to debate the accuracy (validity) and reliability of UCR crime statistics.¹ The only generous conclusion one can reach about this sizable body of literature is that the UCR is a fairly good indicator of *certain* crimes, and should be used with caution to answer *certain* types of research and policy questions².

Hundreds of studies of UCR crime statistics identify a variety of reasons why crimes reported to the police may not be an accurate measure of the true amount of crime occurring in the U.S. For example, victims may not realize they have been victimized, victims may not report the crime to law enforcement, law enforcement may not record the offense or transmit the crime to the UCR program, UCR offense categories and recording rules often make it difficult to accurately categorize a crime, and a substantial number of crimes (such as drug offenses) are not included in the program. Thus, we know that reported crime represents only a portion of the total crime committed in the U.S.

To test the accuracy of UCR crime statistics, the Bureau of Justice Statistics, in coordination with the U.S. Census Bureau, initiated the National Crime Victim Survey (NCVS) during the 1970s. In these surveys, a nationally representative sample of housing units is randomly selected in U.S. cities and residents are asked about their past victimizations. Research comparing the UCR and NCVS provides crucial information on the extent that the UCR is underreporting crime and helps us to understand the strengths and limitations of UCR crime statistics. Overall, UCR statistics are considered valid indicators of serious crimes as defined by citizens, particularly for motor vehicle theft, robbery, burglary, and homicide but other crimes, such as rape and aggravated assault, require careful interpretation.³ This caveat is critical as UCR crime statistics

¹ Kitsuse and Cicourel, 1963; Black, 1970; Black and Reiss, 1970; Siedman and Couzens, 1974; Clarren and Schwartz, 1976; Hindelang, 1976, 1981; Skogan, 1976; Booth et al., 1977; Nelson, 1979; Decker, 1980; Gottfredson and Gottfredson, 1980; Cohen and Lichbach, 1982; Decker et al., 1982; McCleary et al., 1982; Gove et al., 1985; Maltz, 1999; Lott and Whitley, 2003; Maltz and Targonski 2003, 2003; Levitt, 1998.

² Gove et al., 1985.

³ Gove et al., 1985.

have become the foundation for the allocation of billions of dollars of federal and state crime control money.

Although crimes reported to police is the most well known UCR program, law enforcement agencies also record monthly statistics on arrest activity for all felony and misdemeanor (non-traffic) violations. This includes traditional “serious” Part I crimes (murder, rape, robbery, aggravated assault, burglary, larceny, motor vehicle theft and arson), as well as less serious Part II offenses (assault, drugs, gambling, prostitution, sex crimes, forgery, fraud, stolen property, and weapons offenses). While criminologists have spent decades examining the accuracy of UCR crime statistics, we know very little about the accuracy of UCR arrest statistics. There has never been a large-scale, systematic study examining the accuracy of UCR arrest statistics at the state or national level. This neglect suggests that policy-makers and scholars may assume that an arrest event is an easily measured activity that is free from the accuracy problems associated with crime statistics.

While arrest statistics get less media and scholarly attention than crime statistics, they nonetheless play a critical role in directing criminal justice decisions. Arrest statistics are used to examine the race and gender of arrestees, assess police productivity, determine the deterrent effect of law enforcement strategies, describe the nature of juvenile crime, and measure the effectiveness of crime control programs.⁴ Unfortunately, researchers nationally have not had access to a secondary data source to test the accuracy of UCR arrest statistics (like the National Crime Survey can validate the UCR crime statistics).

To fill this void, this study tests the accuracy of Georgia UCR arrest statistics by comparing them to an independent source of arrest data — Georgia’s Computerized Criminal History (CCH) Records. Since the CCH is a compilation of fingerprint-based arrest reports made by local law enforcement officers, this comparison will allow the Justice Department and the Georgia UCR Program to determine if UCR arrest statistics provide an accurate indication of local and county arrest activity. To fully understand differences uncovered between the two measures of arrests, this study also includes a survey of 384 local law enforcement agencies. This survey gathers information about UCR administration at the local level. Survey findings provide the organizational context needed to understand and interpret the UCR-CCH comparisons. This includes, for example, agency classification and scoring, arrest definitions, staffing, training and experience, turnover and retention, and technology support. Survey results are integrated into the analysis to examine whether these factors influence the correlation between the UCR and CCH counts of arrests. The following pages describe these efforts and discusses the policy implications for the UCR program.

⁴ Hindelang, 1978; Rosenthal, 1980; Elliott and Ageton, 1980; Steffensmeier and Cobb 1981; Steffensmeier, 1982; Steffensmeier, 1983; Huizinga and Elliott, 1987; Steffensmeier et al., 1987; Steffensmeier et al., 1991.

Chapter 2: Four Trends Shape How We Access, Analyze & Apply UCR Statistics

The proliferation of UCR statistics in this country during the past ten years has significantly changed how people access, analyze, and apply UCR statistics in academic and policy research.⁵ Despite the research caveats, we can no longer rely on astute consumers as the best way to guard against misapplication of UCR statistics. There is increasing potential for consumers to ignore 70 years of research documenting UCR validity and reliability problems.

Data-Driven Resource Allocation

There is a significant trend in the U.S. of the growing reliance on UCR statistics for the allocation of crime control program money. A turning point for UCR consumption occurred in 1994 when the U.S. Congress reauthorized the 1968 Omnibus Crime Control and Safe Streets Act of 1968. As part of the sweeping criminal justice legislation, the 1994 Act appropriated increased funds for jurisdictions under the Local Law Enforcement Block Grant Program. The Act dictated that funding decisions be based on UCR violent crimes over the past three years.⁶ This Act represents the first time that the federal government tied funding directly to UCR data.⁷ Since this Act, the UCR has grown in importance in funding allocation decisions for several federal programs: Community Oriented Policing Services (COPS), Project Safe Neighborhoods (PSN), and Weed and Seed.

UCR statistics are not only used in directing federal block grant awards, but state agencies responsible for allocating pass-through funds are using UCR statistics to make grant award decisions, particularly as the competition for scarce resources leaves more applicants chasing fewer funds. In 2002, The Georgia Criminal Justice Coordinating Council supplemented applicant proposals with UCR reported crime and arrests statistics to ensure funds went to the applicants with the greatest need. In Georgia and the nation, UCR data are increasingly used to make data-driven resource allocation decisions.

Internet Access and Dissemination

Prior to the Internet, the FBI and state UCR repositories routinely published annual UCR written reports (*Crime in the United States*). Easy access to longitudinal agency-level, electronic data was simply not available unless the researchers and policy-makers had institutional access to the Inter-University Consortium of Political and Social Research (ICPSR) archives or had the technological capacity to read mainframe tapes available with a written request to the FBI.

⁵ Maltz et al., 1999.

⁶ Maltz et al., 1999.

⁷ Maltz et al., 1999.

Although detailed national UCR data were freely available to the public, technological impediments allowed only select UCR consumers to have access to detailed UCR records.

Today, the Internet has made UCR crime statistics available to anyone in the world at the national, state, county, and agency levels. The UCR is no longer limited to police chiefs, interested media outlets, state officials, and academia. The Bureau of Justice Statistics (BJS) hosts a web site providing detailed crime and arrest records at the agency level (<http://www.ojp.usdoj.gov/bjs/dataonline/>). Similarly, in Georgia, the Georgia Crime Information Center (GCIC) hosts a similar web site providing historical crime trends for Georgia's 159 counties (www.state.ga.us/gbi/gbistat1.html).

UCR Commercialization

In recent years, we have witnessed an increase in so called "value added" UCR data for re-sale to business customers, such as retail and convenience stores, real estate and insurance companies, fast-food restaurants, and government agencies. Corporate emphasis on loss-prevention and negligent security liability has prompted companies to incorporate crime and arrest statistics into day-to-day business decisions related to customer and employee security, building security, business re-locations, new business construction, and insurance premiums. Unfortunately, business decisions are being made everyday with little or no understanding of the factors that shape UCR statistics. One company markets a web site and on-site software where customers can enter a street address on-line to obtain an overall "risk for criminal activity" calculation. At first glance, it appears that the web site is using street-level crime statistics to compute the risk for a specific business or residential location. The purchased report actually states that the estimates reflect "the risk of crime at your home compared to the national average." In actuality, the company is using UCR crime reports along with census track data to build predictive models. Unwitting customers are completely unaware that their purchased report is using municipal or county level crime reports, *not* neighborhood specific crime statistics. In addition to direct marketing, travel and leisure publications are routinely publishing quality-of-life city rankings where crime is often a major index component. This movement to commercialize UCR data appears to ignore the need to understand data accuracy.

County and Agency Level Analysis of Crime Trends

With the availability of county and agency level UCR data, error in counting crimes and arrests is even more pronounced.⁸ This is because the FBI *imputes* (estimates) crime and arrest counts for many jurisdictions in order to compensate for missing, incomplete, or inaccurate UCR data. Many law enforcement agencies do not submit the monthly reports or do not submit reports in time to meet the FBI publication deadline. To create a national crime estimate, however, the FBI employs statistical procedures to impute the missing data. Imputation allows the FBI to make national, regional, and state estimates despite missing crime data. In essence, the FBI imputes a

⁸ Maltz et al., 1999; Maltz and Targonski 2003.

jurisdiction's data by using previous reporting months or by using data from contiguous jurisdictions. Thus, UCR reports seldom reflect coverage of the total U.S. population. In Georgia, for example, the 2002 *Crime in the United States* report shows that only 271 Georgia agencies submitted arrest statistics, well below the 630 known reporting agencies.

Chapter 3: UCR Arrest Reports

Although crimes reported to police is the most well known UCR program, law enforcement agencies also record monthly statistics on arrest activity for all felony and misdemeanor (non-traffic) violations. This includes traditional “serious” Part I crimes (murder, rape, robbery, aggravated assault, burglary, larceny, motor vehicle theft and arson), as well as less serious Part II offenses (assault, drugs, gambling, prostitution, sex crimes, forgery, fraud, stolen property, and weapons offenses). While criminologists have spent decades examining the accuracy of UCR crime statistics, we know very little about the accuracy of UCR arrest statistics. There has never been a large-scale, systematic study examining the accuracy of UCR arrest statistics at the state or national level. This neglect suggests that policy-makers and scholars may assume that an arrest event is an easily measured activity that is free from the accuracy problems associated with crime statistics. Although UCR arrest counts do not suffer from as many accuracy issues as reported crimes, potential problems do exist.

Agency Under-Reporting

The first problem, at least for national policy-makers and researchers, is the obvious underreporting of law enforcement agencies in the annual *Crime in the United States* report. In 2002 the FBI published Georgia arrest statistics based on only 43% of the total local UCR reporting agencies in Georgia. According to GCIC, this under representation stems in large part to the failure of local agencies to submit a full 12 months of data to the FBI prior to their publication deadline. Lack of timely reports suggests, at the very least, that local agencies face considerable problems in collecting, preparing, scoring, and submitting monthly UCR arrest reports.

Definitional Ambiguity of Arrest

Another concern is whether local law enforcement agencies are defining “arrest” the same way. Sherman and Glick (1984) found in a survey of 169 departments that many agency UCR classifiers define an offender as arrested if he was arrested, charged, and booked. Official UCR classification rules, however, leave room for a different interpretation. Under UCR rules, an arrest can occur even if the arrest does not result in a formal charge. Police officers could arrest, detain, interrogate, and release an arrestee without formally charging or booking the suspect. They could issue summonses and citations in lieu of an actual arrest. Depending upon which scenario is defined as an arrest, Georgia could experience dramatic differences in the counting of arrests across departments and over time within the same department as policies change.

Classifying Offenses

One historical problem affecting the accurate counting of UCR arrests is the fact that law enforcement agencies must translate hundreds of unique state law violations into one of only 29 offenses as defined for the purpose of UCR arrest reporting. Given the diversity of statutes across states, agencies rely on different referents when reporting. Consider the several violent sex crimes in Georgia — rape, aggravated sodomy, and aggravated sexual battery. According to the UCR rape is “the carnal knowledge of a female forcibly and against her will.”⁹ Since the legal definition of carnal knowledge is the “penetration of the sexual organ of the female by the sexual organ of a male”¹⁰ only Georgia’s rape cases *with a female victim* would fall into the UCR rape category. If the crime involved forced anal, oral or inanimate object penetration (rape, aggravated sodomy, aggravated sexual battery), or the violent sexual assault of a boy or man, the arrest should not be classified as a rape. In fact, the arrest would not even be classified as a Part I Arrest, despite its serious and violent nature. Similarly, automobile theft in Georgia is a violation of the theft-by-taking statute. Under UCR rules, classifiers need to distinguish thefts/larcenies from automobile theft. Similar problems are found reconciling Georgia statutes and UCR rules for forgery, fraud, embezzlement, and stolen property.

The Measurement of Events, Not People

UCR arrest statistics measure *arrest events* and not people. If a person is arrested three times in one month, these events will be recorded as three different arrest events in the UCR. Although this is an appropriate measure of police activity, the current UCR arrest statistics provide no insight into the extent to which repeat offenders have on arrest trends. In some evaluation settings, such a distinction can make an important difference in assessing program effectiveness. There is no body of literature informing policy-makers as to whether arrest statistics are biased by repeat offender arrests.

Ignoring Multiple Charges

According to the UCR offense classification rules, only the most serious offense in the arrest event is classified (seriousness defined by the hierarchy of the 29 UCR arresting offenses). There is no count of additional charges and how they figure into understanding arrests trends. If a police officer stops a vehicle for driving-under-the-influence (DUI) and finds marijuana in the car, the arrest is considered a drug possession case since the drug offense is defined as more serious. Although a correct application of UCR classification rules, this practice significantly masks important arrest trends. Arrest statistics provide the only known data about the nature and extent of Part II crimes. Therefore, if such crimes are “lost” during the classification process as a result of more serious charges, the UCR significantly underreports the prevalence of certain

⁹ Uniform Crime Reporting Handbook, 1984.

¹⁰ Black’s Law Dictionary, 5th edition, 1979.

offenses – DUI, drugs, weapons violations, and other offenses likely to accompany “more serious” crimes.

Demographic Limitations

Although the UCR collects the age, gender, race, and ethnic origin of persons arrested, numerous limitations exist in this data. It is impossible to examine arrest activity among specific age, race, and gender sub-populations, such as white males between the ages of 17 and 24. UCR arrest data is limited to the following subpopulations: selected single ages and age groups by gender and adult and juvenile (ages 10-19) arrests by race. Racial comparisons across specific ages and gender are simply not possible given the current reporting format. This is very problematic for some states, particularly Georgia where a juvenile is considered any youth between the ages of 10 and 17.

Chapter 4: Research Methodology: Revisiting UCR Arrest Accuracy

If potential problems exist in counting arrests, why is there a paucity of research investigating the problem? Several reasons account for this historical neglect. First, policymakers assume an arrest event is an easily measured organizational activity free from biases and errors associated with UCR crime statistics. Second, researchers do not have access to an independent data source to determine if UCR statistics are accurate. When UCR crime statistics were questioned decades ago, the Bureau of Justice Statistics initiated the National Crime Victimization Survey (NCVS). Asking residents about past victimizations is a relatively unbiased, valid way of counting crimes. This second data source offered a second “opinion” on UCR crime count accuracy. The NCVS findings were crucial to understanding UCR strengths and limitations. Unfortunately, researchers do not have access to an independent source, similar to the NCVS, to validate UCR *arrest* counts. To bridge this gap, this project used Georgia’s Computerized Criminal History (CCH) Records. As Georgia’s central repository for arrestee fingerprints, CCH is a valuable secondary data source to validate UCR arrest counts. To date, there is no published cross-validation study comparing CCH and UCR arrest counts. A cross-validation study can answer several important questions for the Bureau of Justice Statistics and the Georgia UCR Program.

1. Are UCR arrest counts accurate? If so, does accuracy vary across offenses?
2. What is the statistical relationship between CCH and UCR arrests counts and how has that relationship changed over time?
3. What influence does law enforcement agency size, staffing, automation and other organizational structures have?

Georgia’s UCR Arrest Data

Law enforcement agencies submit UCR arrest forms that summarize their monthly arrests. These agency-level statistics include the age, sex, race, and ethnic origin of juvenile and adult arrestees for 29 offense types. UCR data for this study were obtained from the Georgia Crime Information Center (GCIC). The GCIC collects and verifies UCR submissions after the designated FBI deadline for submitting UCR data. The GCIC data are complete and do not suffer from inaccuracies stemming from FBI year-end imputation procedures. To analyze trends over time, the study examined the 12-year time period of 1990 to 2002. To ensure accurate matching of arrest counts across the two data systems, the study compare UCR and CCH records for arrests 18 and older.¹¹

¹¹ O.C.G.A. § 15-11-83.

Georgia's Computerized Criminal History (CCH) Records

The Georgia computerized criminal history (CCH) records repository is the independent data source used to validate UCR arrest counts. Georgia law authorizes GCIC to obtain file fingerprints for any person who is arrested or taken into custody for a felony offense or for any offense which is a misdemeanor or a violation of an ordinance involving burglary tools, commercial gambling, dealing in gambling devices, contributing to the delinquency of a child, dealing in stolen property, dangerous drugs, marijuana, narcotics, firearms, dangerous weapons, explosives, pandering, prostitution, sex offenses involving child victims, and worthless checks (O.C.G.A. § 35-3-33 (1)). Today, the GCIC repository contains personal identifiers such as state and FBI number, social security number, name, arresting agency, race, gender, date-of-birth, and aliases on over 2.2 million arrestees and 8 million arrest episodes.

The state repository is used primarily to support law enforcement criminal history checks. However, recognizing the value of CCH data, GCIC, CJCC, and ARS built a research version of Georgia's CCH data. To build a data file comparable to the UCR arrest counts, this project required access to, and transfer of, the entire CCH state repository, including all personal identifiers for persons arrested in Georgia for both felonies and misdemeanors (for offenders who were fingerprinted) during the period 1980 to 2002.

Offense Scoring and Classification

To compare UCR and CCH data, the first step is to identify the most serious offense among each CCH arrest episode by applying the UCR offense classification rules. For example, suppose an arrestee is fingerprinted and charged with burglary, aggravated assault, and theft-by-taking. Under UCR rules, the aggravated assault is considered the most serious offense for reporting purposes. The GCIC relies on over 600 separate offense codes covering existing and past Georgia felony and misdemeanor statutes. There is no official crosswalk table matching the 600 GCIC codes with the 29 UCR offenses. The challenge of this study was to ensure a correct legal match of the GCIC code with the corresponding UCR code. For example, GCIC has 14 homicide codes¹² while the UCR records only two homicide types (murder/non-negligent manslaughter and manslaughter by negligence). To ensure accurate matching of crimes across the two data sources, a uniform, consistent standard was applied to all CCH arrest charges to identify the most serious offense under UCR classification rules.

Linking UCR to CCH Data

Because UCR arrest statistics consist of monthly counts, it is impossible to link CCH arrest and UCR records at the individual/arrestee level. To compare UCR and CCH records, the CCH was

¹² (O.C.G.A. § 40-6-396(a); O.C.G.A. § 40-6-393(b); O.C.G.A. § 40-6-393(a); O.C.G.A. § 40-6-393.1; O.C.G.A. § 52-7-12.3(b); O.C.G.A. § 52-7-12.2(a); O.C.G.A. § 52-7-12.2(b); O.C.G.A. § 52-7-12.3(a); O.C.G.A. § 52-7-12.4; O.C.G.A. § 16-5-3; O.C.G.A. § 16-5-1; O.C.G.A. § 16-5-5; O.C.G.A. § 16-5-2; O.C.G.A. § 16-5-80.

aggregated at the agency level to create monthly totals for each CCH arrest using the newly created most serious offense code as defined under UCR classification rules. Aggregating CCH records produces a monthly count of persons arrested for each of the 29 UCR offense types for each law enforcement agency.

Who Gets Fingerprinted?

One concern in comparing UCR and CCH arrest data is CCH accuracy. Does the CCH reflect an accurate count of persons arrested in Georgia? Georgia law does not require law enforcement to fingerprint every arrestee. City ordinances and selected misdemeanor arrests do not result in a fingerprint and GCIC criminal history submission. On the other hand, UCR rules dictate that agencies count a city ordinance arrest if the violation also constitutes a misdemeanor, such as disorderly conduct, public drunkenness, liquor laws, and vagrancy. This UCR rule poses a problem since GCIC does not accept fingerprints for all Georgia arrestees. In such cases, the CCH would not match the UCR counts. To complicate matters, the statute governing who gets fingerprinted varies annually. O.C.G.A § 35-3-33 (1) (A) (v) authorizes the Georgia Attorney General (AG) to update offenses for which the GCIC is authorized to collect fingerprints. Issued annually, these AG opinions account for newly passed misdemeanor statutes. These opinions result in annual changes to the list of crimes requiring arrestee fingerprints.

Despite these concerns, CCH arrests can be counted accurately for most offenses. First, under Georgia law, all *felons* must be fingerprinted so there is no discretion given to law enforcement in fingerprinting felons. Second, since 1996, the AG has added over 35 new misdemeanor offenses. These additional offenses cover new Georgia laws related to traffic, Georgia's Fair Lending Act, alteration or production of false identification documents, alcohol, tax and revenue violations, conflict-of-interest, aggressive driving, and game and wildlife violations. While significant, these crimes do not fall into the UCR categories that would adversely impact the ability to compare the UCR and CCH sources over time, particularly in comparing Part I crimes or serious Part II crimes.

Chapter 5: Research Findings

The number of arrests measured by the UCR and the number of arrests measured by the CCH are each captured at multiple points in time – the UCR data is captured as monthly agency reports while the CCH data is captured daily (as arrest transactions occur). To compare the two counts, we summarized CCH arrests for each month. In addition, both the monthly UCR and CCH data were summarized by year. We selected 17 offenses that can be easily distinguished in both the UCR and CCH systems and compared the monthly and annual number of arrests for the twelve-year period from 1990-2001.

Table 1. Annual # of Arrests by Offense (UCR & CCH)

	# Arrests					# Arrests			
	Year	UCR	CCH	% Difference		Year	UCR	CCH	% Difference
Murder/ Non-Negligent/ Negligent Manslaughter	1990	745	1,085	46%	Burglary	1990	9,629	10,141	5%
	1991	719	1,077	50%		1991	8,635	10,244	19%
	1992	685	1,081	58%		1992	8,223	9,378	14%
	1993	767	964	26%		1993	7,756	8,091	4%
	1994	591	821	39%		1994	6,763	7,128	5%
	1995	607	777	28%		1995	6,798	6,644	-2%
	1996	566	753	33%		1996	6,697	6,825	2%
	1997	631	619	-2%		1997	6,532	6,505	<-1%
	1998	552	566	3%		1998	5,847	6,297	8%
	1999	498	481	-3%		1999	5,522	5,730	4%
	2000	466	543	17%		2000	5,169	5,786	12%
	2001	424	481	13%		2001	4,744	5,781	22%
Forcible Rape	1990	1,178	1,034	-12%	Larceny/ Motor Vehicle Theft	1990	41,130	32,698	-21%
	1991	996	1,002	1%		1991	36,637	34,635	-6%
	1992	1,076	879	-18%		1992	36,139	32,092	-11%
	1993	796	824	4%		1993	33,961	29,615	-13%
	1994	651	685	5%		1994	32,915	30,043	-9%
	1995	707	666	-6%		1995	36,104	30,427	-16%
	1996	653	642	-2%		1996	36,955	33,042	-11%
	1997	699	610	-13%		1997	33,933	31,400	-8%
	1998	569	542	-5%		1998	29,120	30,115	3%
	1999	572	546	-5%		1999	27,444	28,527	4%
	2000	480	574	20%		2000	25,722	28,295	10%
	2001	474	566	19%		2001	24,699	27,651	12%
Robbery	1990	4,166	4,161	<-1%	Forgery & Counterfeit	1990	3,286	5,094	55%
	1991	3,839	4,261	11%		1991	5,579	5,921	6%
	1992	3,646	4,095	12%		1992	5,420	5,331	-2%
	1993	3,639	3,709	2%		1993	5,684	5,116	-10%
	1994	3,126	3,309	6%		1994	5,490	5,518	1%
	1995	3,216	2,880	-10%		1995	5,930	5,590	-6%
	1996	3,131	2,995	-4%		1996	6,231	6,283	1%
	1997	3,034	2,765	-9%		1997	5,698	6,473	14%
	1998	2,557	2,604	2%		1998	6,044	6,504	8%
	1999	2,416	2,467	2%		1999	5,465	6,099	12%
	2000	2,380	2,537	7%		2000	5,146	6,644	29%
	2001	2,434	2,638	8%		2001	5,661	7,292	29%
Aggravated Assault	1990	13,863	9,332	-33%	Fraud	1990	15,834	24,119	52%
	1991	11,960	9,798	-18%		1991	15,413	24,609	60%
	1992	13,710	9,459	-31%		1992	16,439	22,166	35%
	1993	13,630	9,043	-34%		1993	14,791	19,676	33%
	1994	12,142	8,922	-27%		1994	15,607	21,137	35%
	1995	13,709	8,728	-36%		1995	15,984	22,318	40%
	1996	12,456	9,289	-25%		1996	16,353	23,362	43%
	1997	12,994	9,538	-27%		1997	16,916	24,682	46%
	1998	11,718	8,979	-23%		1998	15,846	21,566	36%
	1999	10,490	8,373	-20%		1999	15,546	20,004	29%
	2000	10,670	8,672	-19%		2000	13,645	19,617	44%
	2001	10,025	8,232	-18%		2001	14,397	18,486	28%

Table 1. Annual # of Arrests by Offense (UCR & CCH)
(Table 1 Continued)

	# Arrests				# Arrests				
	Year	UCR	CCH		Difference	Year	UCR	CCH	Difference
Weapons -- Carrying or Possessing	1990	4,583	5,195	13%	DUI	1990	70,213	60,822	-13%
	1991	5,547	5,490	-1%		1991	58,862	59,574	1%
	1992	6,456	5,638	-13%		1992	61,126	60,286	-1%
	1993	7,332	6,646	-9%		1993	56,416	54,093	-4%
	1994	6,152	6,153	0%		1994	52,198	50,977	-2%
	1995	5,739	5,464	-5%		1995	45,592	41,754	-8%
	1996	4,996	5,498	10%		1996	43,479	40,498	-7%
	1997	5,469	5,858	7%		1997	42,476	42,504	<+1%
	1998	4,968	5,813	17%		1998	41,859	42,364	1%
	1999	4,297	4,742	10%		1999	41,225	39,742	-4%
	2000	3,887	4,679	20%		2000	36,386	39,502	9%
2001	3,941	4,962	26%	2001	36,252	41,026	13%		
Prostitution & Commercial Vice	1990	1,321	607	-54%	Liquor Laws	1990	7,611	3,436	-55%
	1991	1,529	1,162	-24%		1991	10,778	3,425	-68%
	1992	1,877	717	-62%		1992	11,579	3,026	-74%
	1993	1,688	766	-55%		1993	11,109	2,816	-75%
	1994	1,634	680	-58%		1994	8,873	2,800	-68%
	1995	2,136	798	-63%		1995	8,398	2,861	-66%
	1996	1,342	645	-52%		1996	7,827	2,698	-66%
	1997	3,431	1,014	-70%		1997	9,266	3,636	-61%
	1998	2,426	1,050	-57%		1998	10,226	4,207	-59%
	1999	2,535	1,404	-45%		1999	9,666	4,254	-56%
	2000	3,637	1,157	-68%		2000	10,688	4,463	-58%
2001	2,373	1,155	-51%	2001	9,905	4,559	-54%		
Sex Offenses (except forcible rape & prostitution)	1990	2,690	1,788	-34%	Disorderly Conduct	1990	23,125	1,321	-94%
	1991	2,966	2,020	-32%		1991	29,212	1,317	-96%
	1992	3,375	1,259	-63%		1992	31,060	2,978	-90%
	1993	3,557	1,377	-61%		1993	29,681	3,292	-89%
	1994	3,048	1,398	-54%		1994	25,744	3,151	-88%
	1995	3,018	1,330	-56%		1995	26,646	6,270	-77%
	1996	2,854	1,647	-42%		1996	23,394	8,033	-66%
	1997	3,314	1,991	-40%		1997	25,060	8,465	-66%
	1998	3,082	1,984	-36%		1998	23,783	10,139	-57%
	1999	3,425	1,753	-49%		1999	22,743	10,696	-53%
	2000	3,111	1,928	-38%		2000	20,810	11,305	-46%
2001	3,304	1,879	-43%	2001	19,667	11,706	-41%		
Drug poss./ Sales/Manu- facturing (Grand Total)	1990	35,200	30,969	-12%	Gambling	1990	653	450	-31%
	1991	28,266	30,821	9%		1991	632	353	-44%
	1992	29,676	30,422	3%		1992	766	462	-40%
	1993	29,886	29,043	-3%		1993	832	430	-48%
	1994	29,713	30,556	3%		1994	524	296	-44%
	1995	33,570	33,474	<-1%		1995	397	291	-27%
	1996	23,732	35,979	10%		1996	323	334	3%
	1997	37,975	39,157	3%		1997	422	213	-50%
	1998	40,570	42,367	4%		1998	516	281	-46%
	1999	39,164	41,702	7%		1999	251	207	-18%
	2000	36,978	44,556	21%		2000	386	261	-32%
2001	34,851	43,693	25%	2001	653	225	-66%		
Offenses Against Family & Children	1990	1,822	3,179	75%	Offenses Against Family & Children	1990	1,822	3,179	75%
	1991	3,442	3,424	-1%		1991	3,442	3,424	-1%
	1992	3,832	3,269	-15%		1992	3,832	3,269	-15%
	1993	4,837	3,170	-35%		1993	4,837	3,170	-35%
	1994	4,391	3,132	-29%		1994	4,391	3,132	-29%
	1995	5,272	3,177	-40%		1995	5,272	3,177	-40%
	1996	5,583	3,147	-44%		1996	5,583	3,147	-44%
	1997	4,131	2,783	-33%		1997	4,131	2,783	-33%
	1998	4,811	2,893	-40%		1998	4,811	2,893	-40%
	1999	4,902	2,765	-44%		1999	4,902	2,765	-44%
	2000	4,444	2,689	-40%		2000	4,444	2,689	-40%
2001	4,551	2,722	-40%	2001	4,551	2,722	-40%		

As shown in Table 1, the number of arrests per year for the state of Georgia is different across the two measures. The data indicates both significant differences across the measures as well as wide variation over time. For example, there appears to be some congruence for murder between 1997 and 1999, although significant disparities are found between 2000 and 2001. Interestingly, the exact same pattern emerges for rape, robbery, burglary, larceny, forgery, and DUI. Late submissions of UCR reports by law enforcement agencies, as well as noncompliance, could account for UCR undercounting of arrests. Yet several facts suggest otherwise. First, although 2002 and 2003 UCR data were available at the time of this study, the 2001 reporting year was set as the cut-off to allow an 18-month period for agencies to submit late UCR reports. Secondly, wide disparities are observed as far back in time as 1990 to 1995, years for which late submission would no longer be an issue at the time of this study.

While the actual number of arrests differs across the two measures, the *trends* over the past twelve years are similar (see Table 1, Figures 1-10). While there is no consistency over time and offense as to which measure is higher, it would appear that in recent years the number of arrests in the CCH is higher across all offenses.

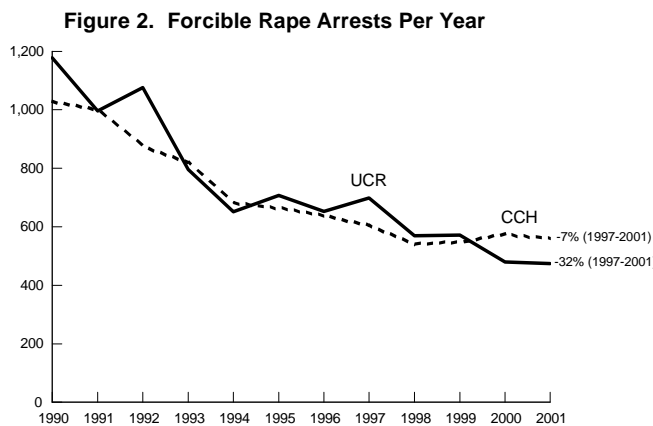
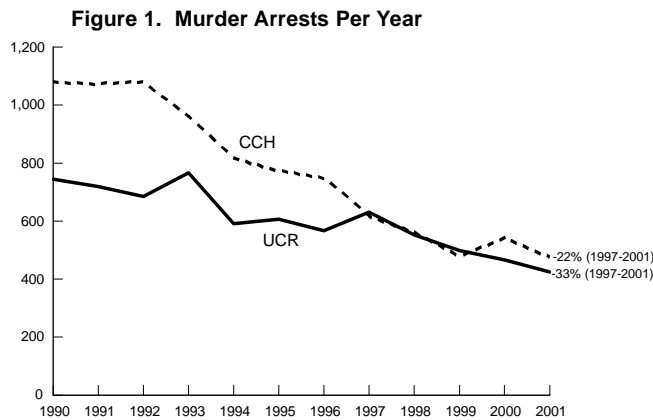


Figure 3. Robbery Arrests Per Year

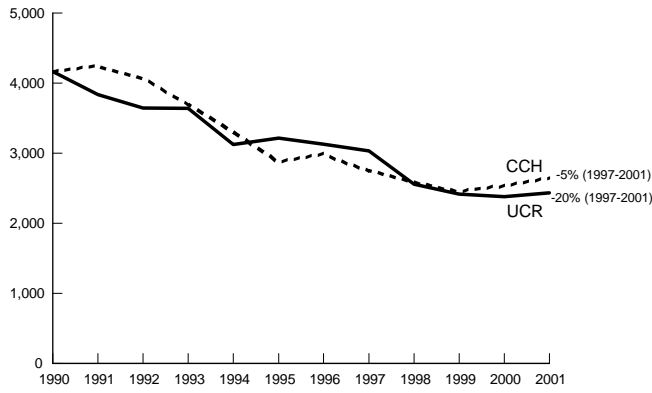


Figure 4. Aggravated Assault Arrests Per Year

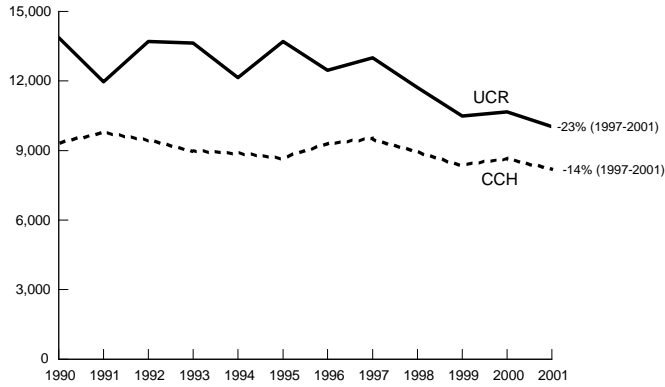


Figure 5. Burglary Arrests Per Year

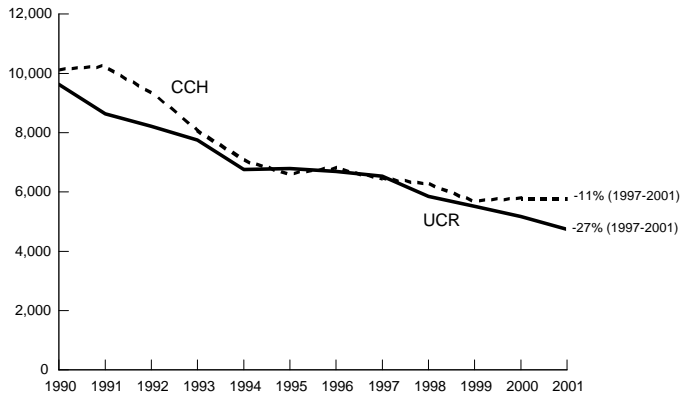


Figure 6. Larceny & Motor Vehicle Theft Arrests Per Year

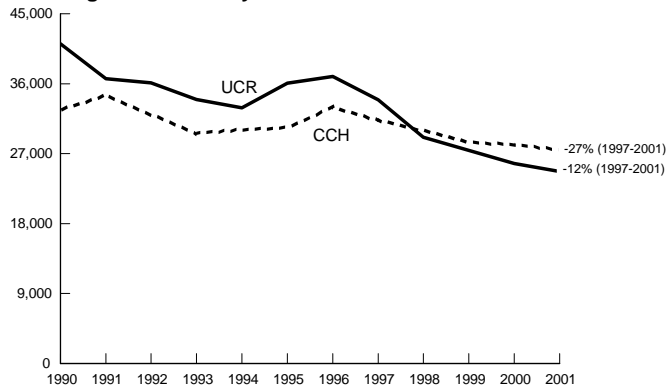


Figure 7. Fraud Arrests Per Year

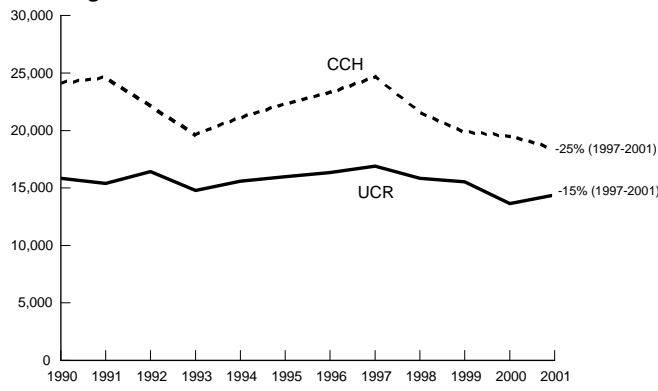


Figure 8. Weapons Arrests Per Year (Carrying or Possessing)

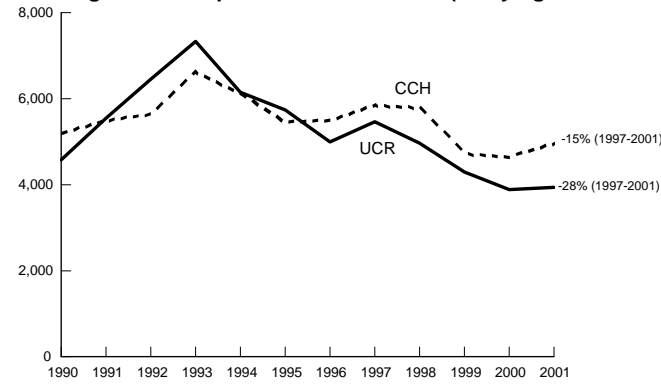


Figure 9. Drug Arrests Per Year (Possession/Sales/Manufacturing)

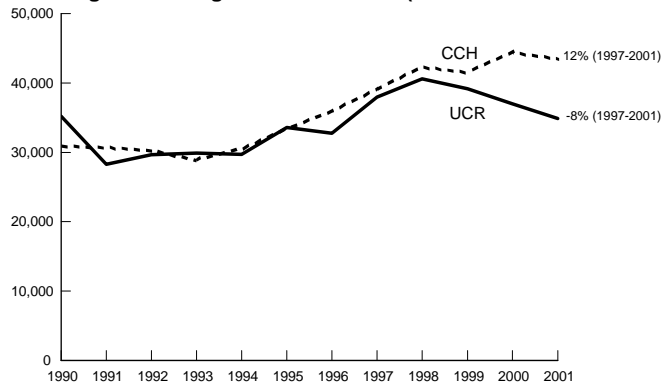
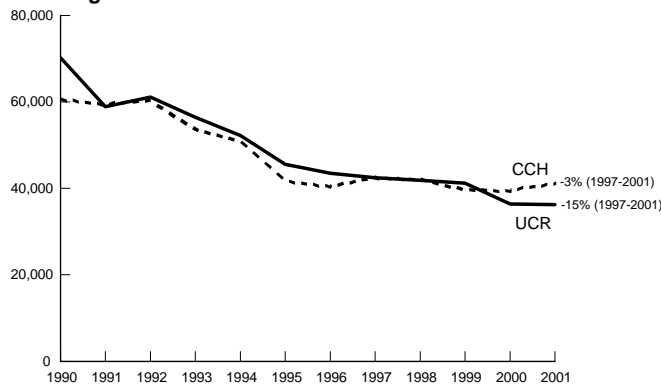


Figure 10. DUI Arrests Per Year



The patterns noted for drug arrests raise significant questions. The UCR reports an upward trend in drug arrests until 1997, when drug arrests dropped 8%. CCH arrests parallel the UCR arrest trends until 1997. However, since 1997 CCH arrests have increased 12%. This disparity questions the accuracy of the “drop” in drug arrests as reported by the FBI.

Statistical Correlation

Since both the number of arrests measured by the UCR and the number of arrests measured by the CCH are longitudinal (measured repeatedly over time), we utilize time series analytical techniques to assess their relationship. A cross-correlation function is computed for each offense. This statistic shows the correlation between the two different measures at the same point in time. If the two data sources both reflect the number of arrests in a month or year, then they will have a high correlation for the same time period. For example, we have the same volume of homicide arrests for January 2000 in both the UCR and CCH. However, the two counts of arrests may actually be correlated at previous or subsequent time periods. For example, the number of UCR arrests per month for the state of Georgia may actually be statistically correlated with the number of arrests for the previous month as captured by the CCH. What transpires in the field may be delayed by paperwork processing even though agencies should still be reporting arrests for the month arrested.

Since both the UCR and CCH data have a distinct trend (declining for most offenses over the past twelve years), the data must be “de-trended” or differenced prior to calculating the cross-correlation function.¹³ This allows for the examination of statistical relationships across the two measures of arrests apart from any complication of changes in the level or trend of arrests. The cross-correlation analysis indicates that the two measures of arrests are most highly related for the same time period. The correlations are presented in Table 2 for monthly data and yearly data.

**Table 2. Cross Correlation Functions (CCF)* Between UCR & CCH
Arrests For Same Time Period**

Arrests for 17 Offenses	Monthly Data Correlations	Yearly Data Correlations
Murder/Non-Negligent/Negligent Manslaughter	.62	.59
Forcible Rape	.53	.57
Robbery	.37	.87
Aggravated Assault	.43	.81
Burglary	.39	.87
Larceny/Motor Vehicle Theft	.35	.89
Forgery & Counterfeit	.42	.89
Fraud	.48	.90
Weapons -- Carrying or Possessing	.48	.88
Prostitution & Commercialized Vice	.29	.51
Sex Offenses (Except Rape & Prostitution)	.50	.64
Drugs	.59	.93
Gambling	.36	.63
Offenses Against Family & Children	.31	.89
DUI	.66	.89
Liquor Laws	.44	.85
Disorderly Conduct	.21	.77

*Both series are serially differenced; CCF presented for stationary series at lag 0.

¹³ McCleary & Hay, 1980; O’Brien, 1990

If the two measures captured the same volume of arrests, the correlations would be near 1.0. Instead, they range from 0.2 to 0.6 comparing monthly counts and range from 0.5 to 0.9 comparing annual counts. As expected, the correlations across all offenses are much stronger when comparing annual data as opposed to monthly data (even if monthly UCR reports are submitted with delay, the annual summary is reflective of reality). The highest correlation across the two measures is found for drug arrests.

What Can Explain the Differences?

Although UCR and CCH data measure the same thing theoretically, the trends (visual) and correlations (statistical) indicate some clear differences. For selected offenses the correlation is modest at best (murder, rape, sex offenses, prostitution). Three reasons could be accounting for low correlations between these data sources.

UCR-CCH disparities could be attributable to different definitions of arrest. The CCH system is only activated if someone is booked and charged in the local jail. UCR, however, has a much broader definition, including all persons processed by arrest, citation, or summons.¹⁴

While this is an important distinction, it cannot explain the observed differences. As shown in Figures 1-10, the UCR indicates *fewer* arrests occurred than CCH. This finding is inconsistent with a broader UCR arrest definition, which should predictably result in more arrests, not fewer. Additionally, citations and summons would obviously apply to less serious Part II crimes, such as disorderly conduct, liquor violations, and loitering, not more serious Part I crimes where the largest disparities exist.

Which is More Accurate?

Between the two data sources, CCH is more likely to reflect accurate arrest counts. First, CCH records an arrest event in “real-time” as part of the routine booking process. Unlike the UCR, it is not a post-hoc administrative counting and reporting process. Arrest charge(s), arrest date, and arresting agency are checked and verified across several agencies, including the arresting agency, booking agency (jail), and the GCIC. Second, prior to a bond hearing, jurisdictions submit fingerprints to GCIC to verify the identity of the arrestee and determine if he is wanted, particularly for persons arrested for a felony. Third, the GCIC operates a statewide quality assurance program to monitor fingerprint submission and other GCIC reporting requirements (such as submission of dispositions). According to GCIC, there has never been a statewide, systematic reporting problem. Fourth, jurisdictions record and submit all arresting charges to GCIC, avoiding the need to conduct any administrative review to classify offenses or determine the most serious offense. While the CCH can in no way result in an error-free process, random errors are not likely to account for such wide discrepancies between CCH and UCR counts of arrests.

¹⁴ Uniform Crime Reporting Handbook (1984) pg. 60.

While the observed disparities between UCR and CCH counts of arrests are significant, these dramatic findings are not entirely inconsistent with prior research. Sherman and Glick (1984), in a study for the Police Foundation, conducted an intensive manual review of arrest records in four jurisdictions. The audit showed two police departments undercounted the actual number of arrests while the other department over-counted arrests. Table 3 displays the percentage of over/under reporting of UCR arrests for the four departments which are located in four U.S. regions: Pacific, Mountain, Northeastern, and Mid-Atlantic.

Table 3. Audit of Arrest Statistics in Four Police Departments:*
Percentage of UCR Under/Over Reporting by Department

Offense	Large Pacific	Small Mountain	Medium Northeastern	Large Mid-Atlantic
Homicide	--	--	+100%	--
Rape	-11%	--	+25%	-60%
Robbery	-12%	-20%	+27%	-40%
Aggravated Assault	-12%	+167%	+83%	+143%
Burglary	+8%	-46%	+36%	-30%
Larceny	-15%	+7%	-34%	+13%
Auto Theft	+6%	-17%	+10%	+17%
Arson	--	--	--	--
Total Part I Arrests	-8%	-11%	+11%	-1%
Other Assault	-27%	+43%	-21%	-10%
Drug Abuse	+10%	+600%	+42%	-12%
DUI	+8%	+1%	-11%	+100%
Total Part II Arrests	-1%	+9%	-14%	+28%
Total Part I & Part II Arrests	-2%	+5%	-5%	+14%

*Table adapted from Police Foundation "The Quality of Police Arrest Statistics" Report, August 1984. Large Pacific and Large Mid-Atlantic reflect one month total; Small Mountain and Medium Northeastern reflect three month total.

Across the board, a manual audit of arrest records revealed significant discrepancies between UCR reports and paper records. For example, UCR robbery arrests were under-counted 40% in one jurisdiction and over-counted 27% in another. The same pattern emerges for burglary, where error rates ranged from 46% under-reporting to 36% over-reporting. Based on this internal audit, mail surveys, and site visits, Sherman and Glick (1984) concluded "...*UCR arrest statistics cannot be used to evaluate police performance by comparing one department's arrest data to that of other departments.*" Sherman and Glick, along with other UCR investigators, contend that organizational processes play an important role in shaping UCR crime and arrest counts: automation, staffing, training, and effectiveness of local and state regulatory systems. Failure to account for these forces and how they change over time has dramatic impact on policy questions involving UCR data.

Law Enforcement UCR Survey

To assist in explaining the low correlation between UCR and CCH, surveys were mailed to 630 Georgia law enforcement agencies in July 2003. Introduction letters were mailed to the head of each agency explaining the project and advising the reader that surveys would be mailed to their UCR classification representative. Agencies completing their survey by the deadline were promised a copy of the final report. Introduction letters were also mailed to the UCR classifier of each agency, followed one week later by a survey and postage-paid return envelope. A three-week deadline was given for survey completion. Reminder postcards were mailed the week of the deadline (August 29, 2003). By the final deadline 384 surveys had been completed and returned – a 61% response rate.

The survey included 58 questions divided into six sections. The first section dealt with staffing and included questions about the number of UCR classifiers, salary, and level of experience. The second section addressed training, and the third section asked questions pertaining to agency automation. The fourth section covered questions specific to the agency including number of employees and data collection practices. The final section asked about reporting practices, including questions about the level of difficulty in completing monthly UCR reports. While the comprehensive nature of the survey precludes discussion on all findings, several areas of importance will be discussed, including UCR classification, report submission, and agency automation.

Law Enforcement Agencies Describe UCR Reporting

When the UCR survey was designed, it was believed that most agencies employ one or more persons that are solely responsible for UCR classification and report submission. However, our survey found that policies and procedures vary significantly by agency. The very first question on the survey asked “How many people are responsible for classifying offenses as part of the UCR program?” Sixty-two percent of respondents reported that only one person within their agency handled UCR classification. However, many agencies contacted ARS by phone to discuss their difficulty in answering this question. Unknown at the time of survey design was the fact that in many agencies, patrol officers are responsible for UCR classification. Callers advised us that officers in some agencies are responsible for including the appropriate UCR classification codes on their incident and arrest reports. So instead of a designated person(s) handling this task as was earlier believed, patrol officers are responsible for UCR classification in many Georgia agencies.

Overall, most UCR classifiers have a good deal of experience with classification (excluding patrol officers where such data was not collected); 60% percent report five or more years of experience. Only 13% report one year or less of classification experience. It also appears that turnover is relatively low in most agencies, with 75% reporting that the only one to two persons have held primary responsibility for UCR classification over the past five years. While turnover

rates appear to be somewhat low, salaries are also rather low. Nearly three-fourths of respondents (non-sworn police officers) report salaries of \$25,000 or less.

Training levels are also low. Only 66% of respondents report that they have received GCIC sponsored UCR training (including on-site and off-site training). This suggests that one-third of UCR classifiers have never received any form of GCIC sponsored training. In addition to offering off-site UCR training sessions, GCIC employs seven customer service representatives (CSR's) across the state. An agency need only request a CSR and they will be provided with on-site personal UCR training for their employees, free of charge. While this service is available to all agencies statewide, only 14% of respondents said that they had requested such training within the past two years. While the survey did not include questions pertaining to the training of patrol officers responsible for UCR classification, every agency that called ARS about this issue was asked several questions pertaining to officer training. When asked if patrol officers received GCIC sponsored UCR training, the answer in each case was "no." ARS was advised that officers either learn classification via in-service or through field officer training from their department. Callers were also asked if they felt confident in the ability of the officers to appropriately classify UCR offenses and arrest information, and in most cases the callers voiced concern that officers are not appropriately trained for this task.

The lack of UCR classification training clearly impacts confidence to accurately classify offenses. Respondents were asked to rank the level of difficulty in determining the elements of each of the UCR Part I crimes using a 1-10 scale (with 1 being not difficult at all, and 10 being very difficult). As shown on Table 4, between 13% and 28% of respondents rated each offense as difficult to classify (level 4-10 on scale). The most difficult offense for classification was larceny/theft. Despite the high levels of UCR experience by many Georgia classifiers, these data show that more training is needed to increase understanding of UCR classification policies.

Table 4. Percent of Law Enforcement Classifiers Ranking "Determining Elements of Crime" Difficult

Offense	Level of Difficulty 4-10
Larceny/Theft	28%
Assault	24%
Arson	22%
Burglary	20%
Forcible Rape	19%
Robbery	17%
Motor Vehicle Theft	15%
Criminal Homicide	13%

The survey not only showed that UCR classification practices vary across the state, but also that the submission of UCR reports also varies. Twenty-one percent of respondents submit their monthly UCR reports electronically, while 79% complete paper reports. The survey did not address actual agency practices for compilation of the monthly reports, but through phone calls received by ARS, it is clear that agencies employ different strategies. We learned that many agencies use software programs to tally their monthly reports. The software employed varies

from very simplistic programs that only figure simple counts, to more complex programs that include customized reports. Others still rely on hand-counts using paper reports and files.

Agency Automation

Law enforcement agencies increasingly use automation for the exchange of information. While only 21% of respondents currently submit UCR reports electronically, 89% say they have an Internet connection, and 65% have an agency e-mail account. Sixty-four percent report that their agency maintains automated offense and arrest records. It appears that Georgia agencies are moving towards automation, but there are still many agencies within the state that lack the technology and resources for computer-based reporting.

Respondents Voice Concerns

In addition to all the information gathered through the UCR surveys, ARS also received nearly 50 phone calls from respondents during the survey process. A few callers had questions about answering particular questions, but most wanted to talk about UCR reporting and express concerns. The most common call was to express concerns about patrol officers handling UCR coding, and the lack of training and verification of the officer entries. Time concerns were also expressed with great frequency. Many UCR classifiers stated that they are responsible for a multitude of tasks at their agency, with UCR as only one task. They said that their supervisors de-emphasize the importance of completing the UCR forms accurately and in a timely fashion in favor of other required tasks. Some also wanted to talk about the confusion and difficulties of coding offenses for UCR because UCR codes differ so much from state statutes. Others expressed frustration with the time-consuming nature of the UCR forms and said they feel rushed to complete the forms by the monthly deadlines, which they fear leads to inaccuracies.

Impact of UCR Program Characteristics on UCR-CCH Correlations

Survey responses support earlier findings that there is a considerable variation in UCR administration within Georgia. Continuing with this line of inquiry, the next step is to incorporate the survey results in the UCR-CCH cross-correlation analysis. Although not every law enforcement agency returned a survey, a 61% response rate provides a representative sample. The survey results were matched to the UCR and CCH records using the GCIC agency identifier (ORI). Incorporating the survey results permits examination of the UCR-CCH correlations for different agency characteristics, including urban/rural, department size, staffing, and automation support.

Urban-Rural Differences

Since previous research has identified a closer correlation between the UCR and the NCVS once structural influences are accounted for (urban social structure)¹¹ we computed cross-correlation functions between the UCR and CCH annual arrest figures separately for urban and rural counties. Table 5 compares the correlations. It would appear that urban counties have a closer correlation between their two measures of arrests for selected crimes, such as murder, forgery, weapons offenses, gambling and liquor law violations. However, in rural counties there is closer convergence between the arrest figures particularly for sex crimes — rape, sex offenses and prostitution. Rural counties also have substantially higher correlations between the arrest figures for robbery and burglary.

**Table 5. Cross Correlation Functions (CCF)* Between UCR & CCH
Arrests For Same Year: Urban vs. Rural Counties**

Arrests for 17 Offenses	Urban Counties Yearly Data Correlations	Rural Counties Yearly Data Correlations
Murder/Non-Negligent/Negligent Manslaughter	.56	.33
Forcible Rape	.49	.73
Robbery	.79	.88
Aggravated Assault	.76	.70
Burglary	.68	.87
Larceny/Motor Vehicle Theft	.81	.85
Forgery & Counterfeit	.93	.75
Fraud	.88	.85
Weapons -- Carrying or Possessing	.83	.64
Prostitution & Commercialized Vice	.50	.73
Sex Offenses (Except Rape & Prostitution)	.52	.60
Drugs	.86	.88
Gambling	.67	.33
Offenses Against Family & Children	.85	.84
DUI	.83	.84
Liquor Laws	.79	.69
Disorderly Conduct	.68	.66

*Both series are serially differenced; CCF presented for stationary series at lag 0.

Information Technology

Local information technology support is an important factor that could be influencing UCR accuracy. Perhaps dependence on paper files and manual processes could impact UCR timeliness and accuracy. Table 6 displays the cross-correlations for agencies that report submitting UCR reports via paper vs. automated submission.

¹⁵Cohen & Land, 1984.

Table 6. Cross Correlation Functions (CCF)* Between UCR & CCH Arrests For Same Year: Agencies with 1 Person Classifying UCR Offenses vs. More Than 1 Person

Arrests for 17 Offenses	1 Person Classifies Correlations	More Than 1 Person Classifies Correlations
Murder/Non-Negligent/Negligent Manslaughter	.81	.81
Forcible Rape	.76	.54
Robbery	.89	.83
Aggravated Assault	.95	.76
Burglary	.92	.72
Larceny/Motor Vehicle Theft	.87	.78
Forgery & Counterfeit	.95	.93
Fraud	.92	.90
Weapons -- Carrying or Possessing	.97	.85
Prostitution & Commercialized Vice	.83	.81
Sex Offenses (Except Rape & Prostitution)	.81	.73
Drugs	.93	.97
Gambling	.91	.19
Offenses Against Family & Children	.92	.72
DUI	.96	.92
Liquor Laws	.87	.76
Disorderly Conduct	.69	.75

*Both series are differenced; CCF presented for stationary series at lag 0.

Identical to earlier correlations, there are no empirical regularities. While agencies submitting electronic forms do better for some crimes, this is no guarantee. For many serious offenses, such as rape, robbery, burglary, there is no evidence to support the assumption that agencies submitting paper forms exhibit higher correlations. However, a slightly different picture emerges among counties with fully automated UCR systems (See Table 7). Automated agencies consistently outperform non-automated agencies for most every Part I offense.

Table 7. Cross Correlation Functions (CCF)* Between UCR & CCH Arrests For Same Year: Agencies Maintaining Automated Records vs. Not

Arrests for 17 Offenses	Automated Agencies Correlations	Non-Automated Agencies Correlations
Murder/Non-Negligent/Negligent Manslaughter	.76	.13
Forcible Rape	.58	.83
Robbery	.87	.60
Aggravated Assault	.91	.25
Burglary	.83	.73
Larceny/Motor Vehicle Theft	.90	.78
Forgery & Counterfeit	.96	.89
Fraud	.91	.79
Weapons -- Carrying or Possessing	.90	.51
Prostitution & Commercialized Vice	.82	.67
Sex Offenses (Except Rape & Prostitution)	.82	.73
Drugs	.96	.95
Gambling	.33	.98
Offenses Against Family & Children	.93	.77
DUI	.96	.70
Liquor Laws	.86	.71
Disorderly Conduct	.76	.58

*Both series are serially differenced; CCF presented for stationary series at lag 0.

Staffing

Investigators examining the accuracy of UCR crimes and arrests contend that staffing and training figure prominently into the UCR accuracy. Untrained staff or disparate UCR policies and practice within the same department could have a dramatic effect on UCR arrest accuracy. This is especially key to ensure that agency classifiers understand and apply the UCR rules consistently. Table 8 compares the cross-correlations for departments relying on one classifier and those with more than one classifier. The correlations suggest that single classifiers offer a single, uniform standard while multiple classifiers could promote greater inconsistencies in UCR classification.

Table 8. Cross Correlation Functions (CCF)* Between UCR & CCH Arrests For Same Year: Agencies Submitting to UCR Paper vs. Electronic

Arrests for 17 Offenses	Paper Submission	Electronic Submission
	Agencies Correlations	Agencies Correlations
Murder/Non-Negligent/Negligent Manslaughter	.52	.72
Forcible Rape	.71	.42
Robbery	.88	.82
Aggravated Assault	.63	.80
Burglary	.79	.77
Larceny/Motor Vehicle Theft	.83	.86
Forgery & Counterfeit	.96	.85
Fraud	.84	.88
Weapons -- Carrying or Possessing	.87	.84
Prostitution & Commercialized Vice	.84	.76
Sex Offenses (Except Rape & Prostitution)	.83	.75
Drugs	.97	.89
Gambling	.52	.88
Offenses Against Family & Children	.93	.61
DUI	.92	.95
Liquor Laws	.77	.82
Disorderly Conduct	.74	.65

*Both series are serially differenced; CCF presented for stationary series at lag 0.

Chapter 6: Discussion

This study assessed the accuracy of Georgia UCR arrest statistics by comparing them to an independent source of arrest data – Georgia’s Computerized Criminal History (CCH) Records. Since the CCH is a compilation of fingerprint-based arrest reports made by local law enforcement officers and Georgia’s UCR Program is an exact replica of the national UCR program, this comparison will allow the Justice Department and the Georgia UCR Program to determine if UCR arrest statistics provide an accurate indication of local and county arrest activity. All comparisons of arrests are made based on the UCR offense classification and counting rules, which were applied to the CCH data. In addition to the analysis of arrest data, this study included a survey of 384 local law enforcement agencies to examine organizational differences in local UCR program administration. Although the UCR arrest statistics figure prominently in directing criminal justice decisions, study findings suggest that policy-makers should exercise considerable caution in using UCR arrest statistics. Our examination of the correlation between UCR and CCH arrest counts reveals several important findings.

For most crimes, it would appear that UCR accurately measures whether the number of arrests is increasing or decreasing over time, but there is no evidence that UCR counts of arrest reflect the exact magnitude of arrest activity in Georgia. This narrow interpretation of UCR arrest counts is the same caveat researchers have articulated about UCR reported crime statistics. Consequently, if magnitude is highly suspect, there is some question as to whether arrest counts should be used for arrest comparisons across jurisdictions. This limitation raises concerns as government entities attempt to measure the relative effectiveness of federal and state funded programs, such as multi-jurisdiction drug task forces and specialized prosecution programs, using UCR arrest statistics.

It is evident that law enforcement agency characteristics impact the correlation between UCR and CCH counts of arrests. For example, an agency’s reliance on a single, experienced classifier dramatically improves UCR-CCH correlations. Also, an agency’s method of UCR reporting has been shown to influence data quality, with automated agencies more likely to produce similar counts of arrest between the two data sources than non-automated agencies for nearly every category of serious crime arrests.

What Could Produce These Results?

With such dramatic differences between UCR and CCH counts of arrests, as indicated by low correlations between the two measures, one has to immediately question the study methodology. Could these findings reflect a methodological artifact? More importantly, the wide disparities are only meaningful if CCH, as an independent source, reflects an *accurate* count of persons arrested in Georgia. Although this issue has been covered in earlier sections, it warrants further discussion.

Fingerprint Policies

One potential methodological problem when comparing arrests across the UCR and CCH is that Georgia law does not require agencies to fingerprint every arrestee. Arrests for city ordinances and selected misdemeanors do not result in a fingerprint and GCIC criminal history submission, thus they are not included in the CCH data. To complicate matters, UCR rules require agencies to count ordinance arrests if the violation could also constitute a misdemeanor, such as disorderly conduct, public drunkenness, liquor laws, and vagrancy in Georgia. This difference across the two data sources could make it difficult to compare arrests for low-level offenses. If UCR definitions include all ordinance violations and misdemeanors, one would expect more UCR arrests than CCH – an assumption supported by the data for low-level crimes.

However, such fingerprint policies should have no impact on either the UCR or CCH count of arrests for Part I and serious Part II crimes since local agencies must fingerprint *all* arrested felons. Yet the study uncovers significant discrepancies between the two counts of arrests for felony crimes. Drug violations in particular present unique concerns. Since 1997, the CCH shows an 8% increase in drug arrests while the UCR shows a 12% decrease. A discrepancy in drug arrest counts is surprising since all Georgia drug violators are fingerprinted. However, in some urban jurisdictions, marijuana possession (less than 1 ounce) may be treated as a municipal ordinance violation. In such cases, it is possible the agency does not submit a fingerprint to the GCIC even though the agency would still report the drug possession arrest to the UCR. Yet we cannot explain why CCH drug arrest counts are *higher* than UCR counts, which is counter-intuitive since the UCR count could include non-fingerprinted drug arrests.

Different Definitions of Arrest

Under UCR classification rules, an arrest is considered any event in which a person is processed by arrest, citation, or summons. CCH records an arrest only for persons fingerprinted. While this definitional difference could explain the observed UCR-CCH differences, three reasons rule out this explanation of the findings. First, survey results show that only 17% of the agencies actually apply the broad UCR arrest definition which includes citations and summons; 78% apply the narrow GCIC “in-custody” definition. Second, citations and summons, while used for less serious offenses, cannot explain differences observed for felony arrests, since law enforcement do not issue citations/summons for felons. Third, if citations/summons were accounting for UCR-CCH differences, one would expect to observe *higher* UCR arrest counts as a result of the broader arrest definitions. Yet, UCR arrest counts consistently fall below CCH counts for most crimes despite the narrow CCH “in-custody and fingerprinted” definition.

Variations in Local UCR Administration

Policy-makers and scholars have assumed that an arrest event is an easily measured activity that is free from the accuracy problems associated with crime statistics. However, this study shows that there is considerable variation in local UCR program administration, and thus the counting

of arrest events. These administrative variations, when taken together, are probably contributing to disparities observed between the UCR and CCH counts of arrests. Several findings deserve attention.

- Survey findings show that many agencies rely solely on patrol officers to assign the appropriate UCR offense code for purposes of reporting arrests to the UCR program. This practice has the potential to improve the timeliness of UCR reporting by avoiding the use of additional classification personnel to review and/or assign codes after reviewing the arrest report. However, such improvements are only possible if officers understand the subtle differences between Georgia legal code and UCR offense definitions. According to UCR coordinators, patrol officers are *not trained* by GCIC to assign UCR codes. While GCIC offers numerous in-house and on-site UCR training classes, the local agency management decides who will attend the training class – the office clerk, sworn officers, or other designee.
- Only 21% of the responding Georgia agencies submit monthly UCR reports electronically. Yet automated agencies out-perform non-automated agencies in producing similar counts of UCR and CCH arrests. While the evolution of the UCR program from a paper to an automated process would appear to increase UCR accuracy, technological needs at the local level remains a critical issue – our survey shows one out of ten agencies still lacks an Internet connection.
- Although 60% of UCR classifiers report that they have at least five years of UCR classification experience, one-third have never attended GCIC sponsored UCR training. This training deficiency is evident when one out of four classifiers reports significant difficulty in classifying larceny/theft, assault, and arson arrests. It remains unknown whether this training deficit is the result of local agencies not taking advantage of GCIC offers for help or if Georgia simply does not fund training at sufficient levels to meet the need. GCIC provides annual statewide training, and additional conference training when funds permit. They routinely encourage agencies to request training in addition to the one-on-one telephone training they provide. GCIC also conducts special training for requesting agencies and makes direct offers for training if their internal quality assurance monitoring identifies an agency problem. It may simply be that the already overburdened local agency personnel do not have the time to attend the offered training.
- 8% of responding agencies still submit UCR forms directly to the FBI, delaying the mandated GCIC screening process. Since the FBI will return reports not processed on the state level first, this practice simply prevents the state from identifying and correcting reporting errors in a timely manner for a number of agencies.

Where to Go From Here?

Since 1980, Georgia law enforcement agencies have submitted over 300,000 monthly UCR crime and arrest reports. Still, Georgia struggles with basic UCR program administration problems – typified by the fact that less than one half of our agencies met the FBI’s submission deadline for inclusion in the 2002 annual arrest report. Despite concerted GCIC efforts to impose uniform standards and provide statewide training, agencies still operate as isolated collection points for the state’s crime and arrest data.

Some contend that the national trend toward replacing the current summary UCR method of counting crimes and arrests with a more in-depth incident-based reporting system (the FBI’s National Incident-Based Reporting System or NIBRS) holds promise for improving crime and arrest data. NIBRS is designed to enhance the quality and timeliness of national crime data using an improved collection methodology. Undoubtedly, NIBRS is a potential solution to many documented UCR problems in counting arrests. NIBRS offers the following enhancements:¹⁶

- Collecting arrest details for index crimes plus 49 other offenses.
- Recording each offense occurring in the incident – not just the most serious.
- Restructuring and improving the definitions for several crimes (rape, assault).
- Collecting weapon information.

The NIBRS cornerstone is the collection of detailed information on each offense involved in the arrest incident, along with detailed information about the victim(s), method-of-operation, property values, and offender. At the crime analysis level, these enhancements offer dramatic improvements in the 70-year old UCR program. The present study, however, raises serious questions about the capacity of local agencies to support the additional administrative burden required under NIBRS.

NIBRS is far from being a “new” crime and arrest reporting program in Georgia, where only one agency currently participates in the FBI’s NIBRS initiative. More interesting, our survey findings indicate that 60% of Georgia’s UCR program coordinators are *not even aware* of NIBRS. Despite the fact that GCIC is ready and willing to work with any agency interested in incident-based reporting, the NIBRS program is not likely to improve what appears to be fundamental program funding and training problems. Admittedly, this study does not offer any evidence that NIBRS would not improve the current data problems, but it does show that local law enforcement agencies have yet to master the most basic UCR counting requirement – how many arrests were made in Georgia last year? Dedicated UCR funding and staff at the local level (given the time to complete the task and be sufficiently trained), improved technology at the local agency level,

¹⁶ Rantala, Ramona A. and Thomas J. Edwards (2000).

additional training, creating statewide UCR classification rules, as well as other administrative remedies, would probably improve the quality of Georgia's arrest data far more than increasing the complexity of data collection.

References

1. Bailey, Leroy, Moore, Thomas F., and Bailar, Barbara A. 1978. "An Interviewer Variance Study for the Eight Impact Cities of the National Crime Survey Cities Sample." *Journal of the American Statistical Association* 73(361):16-23.
2. Berk, Sarah Fenstermaker and Loseke, Donileen R. 1980. "'Handling' Family Violence: Situational Determinants of Police Arrest in Domestic Disturbances." *Law and Society Review* 15(2):317-46.
3. Black, Donald J. 1970. "Production of Crime Rates." *American Sociological Review* 35:733-48.
4. Black, Donald J. and Reiss, Jr. Albert. 1970. "Police Control of Juveniles." *American Sociological Review* 35:63-77.
5. Block, Richard. 1974. "Why Notify the Police: The Victim's Decision to Notify the Police of an Assault." *Criminology* 11(4):555-69.
6. Block, Richard and Block, Carolyn R. 1980. "Decisions and Data: The Transformation of Robbery Incidents into Official Robbery Statistics." *The Journal of Criminal Law and Criminology* 71(4):622-36.
7. Boggess, Scott and Bound, John. 1997. "Did Criminal Activity Increase During the 1980s? Comparisons Across Data Sources." *Social Science Quarterly* 78(3):725-39.
8. Booth, Alan, Johnson, David R., and Choldin, Harvey M. 1977. "Correlates of City Crime Rates: Victimization Surveys Versus Official Statistics." *Social Problems* 25:187-97.
9. Braithwaite, John. 1981. "The Myth of Social Class and Criminality Reconsidered." *American Sociological Review* 46:36-57.
10. Bursik, Jr. Robert J. 1988. "Social Disorganization and Theories of Crime and Delinquency: Problems and Prospects." *Criminology* 26(4):519-51.
11. Bursik, Jr. Robert J. and Grasmick, Harold G. 1993. "The Use of Multiple Indicators to Estimate Crime Trends in American Cities." *Journal of Criminal Justice* 21:509-16.
12. Cantor, David and Cohen, Lawrence E. 1980. "Comparing Measures of Homicide Trends: Methodological and Substantive Differences in the Vital Statistics and Uniform Crime Report Time Series (1933-1975)." *Social Science Research* 9:121-45.
13. Clarren, Summer N. and Alfred Schwartz, I. 1976. "Measuring a Program's Impact: A Cautionary Note." *Sample Surveys of the Victims of Crime*, Wesley G. Skogan. Cambridge, MA.: Ballinger.
14. Cohen, Larry J. and Lichbach, Mark I. 1982. "Alternative Measures of Crime: A Statistical Evaluation." *The Sociological Quarterly* 23:253-66.

-
15. Cohen, Lawrence E. and Land, Kenneth C. 1984. "Discrepancies Between Crime Reports and Crime Surveys." *Criminology* 22(4):499-530.
 16. Decker, David, Shichor, David, and O'Brien, Robert. 1982. *Urban Structure and Victimization*. Lexington, MA: Lexington.
 17. Decker, Scott. 1980. *Criminalization, Victimization and Structural Correlates of Twenty-Six American Cities*. Saratoga, CA: Century Twenty-One Publishing.
 18. Eck, J. Ernst and Riccio, Lucius J. 1979. "Relationship Between Reported Crime Rates and Victimization Survey Results: An Empirical and Analytical Study." *Journal of Criminal Justice* 7293-308.
 19. Elliott, Delbert S. and Ageton, Suzanne S. 1980. "Reconciling Race and Class Differences in Self-Reported and Official Estimates of Delinquency." *American Sociological Review* 4595-110.
 20. Federal Bureau of Investigation, Federal Bureau of Investigation. 1984. *Uniform Crime Reporting Handbook*. Washington, D.C.: Uniform Crime Reporting, Federal Bureau of Investigation, Department of Justice.
 21. Gottfredson, Denise C., McNeil, III Richard J., and Gottfredson, Gary D. 1991. "Social Area Influences on Delinquency: A Multilevel Analysis." *Journal of Research in Crime and Delinquency* 28(2):197-226.
 22. Gottfredson, Michael and Gottfredson, Don. 1980. *Decisionmaking in Criminal Justice*. Cambridge, MA: Ballinger.
 23. Gove, Walter R., Hughes, Michael, and Geerken, Michael. 1985. "Are Uniform Crime Reports A Valid Indicator of the Index Crimes? An Affirmative Answer With Minor Qualifications." *Criminology* 23(3):451-501.
 24. Greenberg, David F. and Larkin, Nancy J. 1985. "Age-Cohort Analysis of Arrest Rates." *Journal of Quantitative Criminology* 1227-40.
 25. Hawkins, Richard O. 1973. "Who Called the Cops?: Decisions to Report Criminal Victimization." *Law and Society Review* 7427-44.
 26. Hindelang, Michael J. 1974. "The Uniform Crime Reports Revisited." *Journal of Criminal Justice* 21-17.
 27. Hindelang, Michael J. 1976. *Criminal Victimization in Eight American Cities*. Cambridge, MA: Ballinger.
 28. Hindelang, Michael J. 1978. "Race and Involvement in Common Law Personal Crimes." *American Sociological Review* 4393-109.
 29. Hindelang, Michael J., Hirschi, Travis, and Weis, Joseph. 1979. "Correlates of Delinquency: The Illusion of Discrepancy Between Self-Report and Official Measures." *American Sociological Review* 44995-1014.
 30. Hindelang, Michael J. 1981. "Variations in Sex-Race-Age-Specific Incidence Rates of Offending." *American Sociological Review* 46461-74.
 31. Hirschi, Travis, Hindelang, Michael J., and Weis, Joseph. 1982. "Reply to "On the Use of Self-Report Data to Determine the Class Distribution of Criminal and Delinquent Behavior"." *American Sociological Review* 47433-35.

-
32. Huizinga, D. and Elliott, Delbert S. 1987. "Juvenile Offenders - Prevalence, Offender Incidence, and Arrest Rates by Race." *Crime and Delinquency* 33(2):206-23.
 33. Inciardi, James A. 1978. "The Uniform Crime Reports: Some Considerations on Their Shortcomings and Utility." *Public Data Use* 6(6):3-16.
 34. Jensen, Gary F. and Karpos, Maryaltani. 1993. "Managing Rape: Exploratory Research on the Behavior of Rape Statistics." *Criminology* 31(3):363-85.
 35. Kitsuse, John and Cicourel, Aaron. 1963. "A Note on the Use of Official Statistics." *Social Problems* 10:131-39.
 36. Kovandzic, Tomislav V., Sloan, III John J., and Vieraitis, Lynne M. 2002. "Unintended Consequences of Politically Popular Sentencing Policy: The Homicide Promoting Effects of "Three Strikes" in U.S. Cities (1980-1999)." *Criminology and Public Policy* 1(3):399-424.
 37. Land, Kenneth C. and Felson, Marcus. 1976. "A General Framework for Building Dynamic Macro Social Indicator Models: Including an Analysis of Changes in Crime Rates and Police Expenditures." *American Journal of Sociology* 82(3):565-604.
 38. Levitt, Steven D. 1998. "The Relationship Between Crime Reporting and Police: Implications for the Use of Uniform Crime Reports." *Journal of Quantitative Criminology* 14(1):61-81.
 39. Lindgren, Sue A. and Zawitz, Marianne W., Lindgren, Sue A. and Zawitz, Marianne W. 2001. *Linking Uniform Crime Reporting Data to Other Datasets*. NCJ 185233. Office of Justice Programs: U.S. Department of Justice.
 40. Lizotte, Alan J. 1985. "The Uniqueness of Rape: Reporting Assaultive Violence to the Police." *Crime and Delinquency* 31(2):169-90.
 41. Lott, Jr. John R. and Whitley, John. 2003. "Measurement Error in County-Level UCR Data." *Journal of Quantitative Criminology* 19(2):185-98.
 42. Lundman, Richard J. 1978. "Shoplifting and Police Referral: A Reexamination." *The Journal of Criminal Law and Criminology* 69(3):395-401.
 43. Maltz, Michael D. 1976. "Secondary Analysis of the UCR: An Index of the Risk of Death Due to Robbery." *Journal of Criminal Justice* 4:153-56.
 44. Maltz, Michael D. 1977. "Crime Statistics: A Historical Perspective." *Crime and Delinquency* 23(1):32-40.
 45. Maltz, Michael D., Maltz, Michael D. 1999. *Bridging the Gap in Police Crime Data*. NCJ-1176365. Washington, D.C.: Bureau of Justice Statistics, Office of Justice Programs, Department of Justice.
 46. Maltz, Michael D. and Targonski, Joseph. 2002. "A Note on the Use of County-Level UCR Data." *Journal of Quantitative Criminology* 18(3):297-318.
 47. Maltz, Michael D. and Targonski, Joseph. 2003. "Measurement and Other Errors in County-Level UCR Data: A Reply to Lott and Whitley." *Journal of Quantitative Criminology* 19(2):199-206.

-
48. Maxfield, Michael G., Weiler, Barbara Luntz, and Widom, Cathy Spatz. 2000. "Comparing Self-Reports and Official Records of Arrests." *Journal of Quantitative Criminology* 16(1):87-110.
 49. Maxim, Paul S. 1985. "Cohort Size and Juvenile Delinquency: A Test of the Easterlin Hypothesis." *Social Forces* 63:661-81.
 50. McCleary, Richard, Nienstedt, Barbara C., and Erven, James M. 1982. "Uniform Crime Reports As Organizational Outcomes: Three Time Series Experiments." *Social Problems* 29(4):361-72.
 51. Menard, Scott. 1992. "Residual Gains, Reliability, and the UCR-NCS Relationship: A Comment on Blumstein, Cohen, and Rosenfeld." *Criminology* 30(1):105-13.
 52. Messner, Steven F., Raffalovich, Lawrence E., and McMillan, Richard. 2001. "Economic Deprivation and Changes in Homicide Rates for White and Black Youths." *Criminology* 39(3):591-614.
 53. Nelson, James. 1979. "Implications for the Ecological Study of Crime: A Research Note." *Perspectives in Victimology*, UCR ed. William Parsonage. Beverly Hills: Sage.
 54. Nolan, III James J., Yoshio Akiyama, and James A. Woods. Improving Measures of Crime: Sample Adjustments to Police Crime Data. 2001.
Ref Type: Unpublished Work
 55. O'Brien, Robert M. 1989. "Relative Cohort Size and Age-Specific Crime Rates: An Age-Period-Relative-Cohort-Size Model." *Criminology* 27(1):57-78.
 56. O'Brien, Robert M., Shichor, David, and Decker, David L. 1980. "An Empirical Comparison of the Validity of UCR and NCS Crime Rates." *The Sociological Quarterly* 21 391-401.
 57. O'Brien, Robert M. 1983. "Metropolitan Structure and Violent Crime: Which Measure of Crime?" *American Sociological Review* 48:434-37.
 58. O'Brien, Robert M. 1990. "Comparing Detrended UCR and NCS Crime Rates Over Time: 1973-1986." *Journal of Criminal Justice* 18:229-38.
 59. O'Brien, Robert M. 1996. "Police Productivity and Crime Rates: 1973-1992." *Criminology* 34(2):183-207.
 60. Osgood, D. Wayne. 2000. "Poisson-Based Regression Analysis of Aggregate Crime Rates." *Journal of Quantitative Criminology* 16(1):21-43.
 61. Osgood, D. Wayne and Chambers, Jeff M. 2000. "Social Disorganization Outside the Metropolis: An Analysis of Rural Youth Violence." *Criminology* 38(1):81-116.
 62. Pample, Fred C. and Peters, H. Elizabeth. 1995. "The Easterlin Effect." *Annual Review of Sociology* 21:163-94.
 63. Pample, Fred C. and Williams, Kirk R. 2000. "Intimacy and Homicide: Compensating for Missing Data in the SHR." *Criminology* 38(2):661-80.
 64. Piehl, Debra J. Do We Really Have Any Idea If Crime Is Up or Down? 2001.
Ref Type: Unpublished Work

-
65. Rand, Michael R. and Rennison, Callie M. 2002. "True Crime Stories? Accounting for Differences in Our National Crime Indicators." *Chance* 15(1):47-51.
 66. Rantala, Ramona R. and Edwards, Thomas J., Rantala, Ramona R. and Edwards, Thomas J. 2000. *Effects of NIBRS on Crime Statistics*. NCJ 178890. Office of Justice Programs: U.S. Department of Justice.
 67. Riedel, Marc. 1990. "Nationwide Homicide Data Sets: An Evaluation of the Uniform Crime Reports and the National Center for Health Statistics Data." Pp.175-205 in *Measuring Crime: Large-Scale, Long-Range Effects*, vol. CJCC UCR Validation, Doris Layton MacKenzie, Phyllis Jo Baunach, and Roy R. Roberg. Albany, NY: State University of New York Press.
 68. Ruback, R. Barry and Menard, Kim S. 2001. "Rural-Urban Differences in Sexual Victimization and Reporting: Analyses Using UCR and Crisis Center Data." *Criminal Justice and Behavior* 28(2):131-55.
 69. Sampson, Robert J. 1985. "Neighborhood and Crime: The Structural Determinants of Personal Victimization." *Journal of Research in Crime and Delinquency* 22(1):7-40.
 70. Sampson, Robert J. and Groves, W. Byron. 1989. "Community Structure and Crime: Testing Social-Disorganization Theory." *American Journal of Sociology* 94(4):774-802.
 71. Savolainen, Jukka. 2000. "Relative Cohort Size and Age-Specific Arrest Rates: A Conditional Interpretation of the Easterlin Effect." *Criminology* 38(1):117-36.
 72. Seidman, David and Couzens, Michael. 1974. "Getting the Crime Rate Down: Political Pressure and Crime Reporting." *Law and Society Review* 8:457-93.
 73. Sherman, Lawrence W. and Glick, Barry D., Sherman, Lawrence W. and Glick, Barry D. 1984. *The Quality of Police Arrest Statistics*. Office of Research and Evaluation Methods: National Institute of Justice.
 74. Skogan, Wesley G. 1974. "The Validity of Official Crime Statistics: An Empirical Investigation." *Social Science Quarterly* 55:25-38.
 75. Skogan, Wesley G. 1976. "Crime and Crime Rates." *Sample Survey of Victims of Crime*, Wesley G. Skogan. Cambridge, MA: Ballinger.
 76. Smith, M. D., Devine, J. A., and Sheley, J. F. 1992. "Crime and Unemployment: Effects Across Age and Race Categories." *Sociological Perspectives* 35(4):551-72.
 77. Steffensmeier, Darrell. 1983. "Flawed Arrest 'Rates' and Overlooked Reliability Problems in UCR Arrest Statistics: A Comment on Wilson's 'The Masculinity of Violent Crime - Some Second Thoughts'." *Journal of Criminal Justice* 11:67-71.
 78. Steffensmeier, Darrell, Streifel, Cathy, and Harer, Miles D. 1987. "Relative Cohort Size and Youth Crime in the United States." *American Sociological Review* 52:702-10.
 79. Steffensmeier, Darrell and Harer, Miles D. 1991. "Crime Rise or Fall During the Reagan Presidency: The Effects of 'Aging' U.S. Population on the Nation's Crime Rate." *Journal of Research in Crime and Delinquency* 28:330-359.

-
80. Steffensmeier, Darrell, Streifel, Cathy, and Shihadeh, Edward S. 1992. "Cohort Size and Arrest Rates Over the Life Course: The Easterlin Hypothesis Reconsidered." *American Sociological Review* 57306-14.
 81. Steffensmeier, Darrell. 1993. "National Trends in Female Arrests, 1060-1990: Assessment and Recommendations for Research." *Journal of Quantitative Criminology* 9(4):411-41.
 82. Steffensmeier, Darrell and Harer, Miles D. 1999. "Making Sense of Recent U.S. Crime Trends, 1980 to 1996/1998: Age Composition Effects and Other Explanations." *Journal of Research in Crime and Delinquency* 36(3):235-74.
 83. Steffensmeier, Darrell. 2001. "Female Crime Trends, 1960-1995." Pp.191-211 in *Women, Crime, and Criminal Justice: Original Feminist Readings*, Claire Renzetti and Lynne Goodstein. Los Angeles: Roxbury Publishing Co.
 84. Thornberry, Terence P. and Farnworth, Margaret. 1982. "Social Correlates of Criminal Involvement: Further Evidence on the Relationship Between Social Status and Criminal Behavior." *American Sociological Review* 47505-18.
 85. Tittle, Charles R., Villemez, Wayne J., and Smith, Douglas A. 1978. "The Myth of Social Class and Criminality: An Empirical Assessment of the Empirical Evidence." *American Sociological Review* 43643-56.
 86. Wilkerson, James E. State Distorts Crime Statistics. 2-3-2003. Allentown, PA, The Morning Call.